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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,997	03/23/2001	Wen Xu	P01,0052	1200
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BELL, BOYD & LLOYD, LLC			HA, DAC V	
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011101100, 12			2634	8
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary Examiner			·				
Examiner Dac V. Ha 2634	·	Application No.	Applicant(s)				
Dac V. Ha Dac V. Ha Dac	**	09/787,997	XU, WEN				
Preirod for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Extentions of time may be evaluable under the provided work of 3 CFR 1.13(d), in no event, however, may a reply be timely filed Extentions of time may be evaluable under the provided work the provided work the provided of 3 CFR 1.13(d), in no event, however, may a reply be timely filed Extentions of time may be evaluable under the provided of 3 CFR 1.13(d), in no event, however, may a reply be timely filed Extentions of the special of reply specified above is list sha fility (30) days, a reply which the standardory minimum of thinty (30)-tays will be considered femby. If No period for reply specified above is list sha fility (30) days, a reply which the standardory minimum of the making date of this communication of the provided in the provided in the provided in the provided in the continuation, even if timely filed in may reply with the standard patient term adjustment. See 37 CFR 1.74(b). Status 1)⊠ Responsive to communication(s) filed on 23 March 2001. 2a)☐ This action is FINAL. 2b)☑ This action is FINAL. 2b)☑ This action is filed. 2a)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4)☑ Claim(s) 11-22 is/are pending in the application. 4)② Claim(s) 11-13 and 15-22 is/are rejected. 7)② Claim(s) 14 is/are objected to restriction and/or election requirement. Application Papers 9)☐ The specification is objected to by the Examiner. 10)☐ The drawing(s) filed on is/are: a)☐ accepted or b)☐ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheel(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11)☐ The cath or declaration is objected to by the E	Office Action Summary	Examiner	Art Unit				
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THE MAILING DATE OF THIS COMMUNICATION. Editariosis or tiem may be available under the provision of 32 FER 1.13(6). In no event, however, may a reply be timely flied after SX (6) MONTHS from the mailing date of this communication. It no provision from the mailing date of this communication, only within the statutory precived may be application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Otto Barbon. The mailing date of this communication, even if timely fleet, may reduce any event of the communication, even if timely fleet, may reduce any event plants to make the mailing date of this communication, even if timely fleet, may reduce any event plants to the specific plants to make the mailing date of this communication, even if timely fleet, may reduce any event plants to the specific plants to the communication of the communication of the communication, even if timely fleet, may reduce any event plants to the specific plants to the communication of the communic	· ·	ears on the cover sheet with the c	correspondence address				
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DETAILED ACTION

Claim Rejections - 35 USC § 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 11-13, 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Berghe et al. (US 6,233,713) (hereinafter Van) in view of Hauck. (US 4,626,829).

Regarding claim 11, Van teaches the claimed subject matter "A method ... in said mapping" "and allocating ... symbols" collectively in Col. 2, lines 4-25; Col. 5, line 1 to Col. 6, line 8. That is, Van teaches that the information bits have varying sensitivity to error, thus grouped into classes and encoded into codeword therefrom, as conventional. Van differs from the claimed invention in that Van doesn't teach the claimed subject matter "sorting ... to obtain sorted symbols". However, the concept of coding the symbols in accordance to its probability of occurrence is not new in the art. In particular, Hauck teaches the symbols are coded in corresponding to their probability of occurrence is a technique known in the art (Col. 1, lines 29-53; Col. 15, lines 4-27). Further, Hauck teaches detecting the probability of occurrence of the symbols and coding the symbols in accordingly, Hauck essentially teaches "sorting said symbols dependent on their respective probability of occurrence". Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate

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the teaching of coding the symbols corresponding to their probability of occurrence taught by Hauck into Van, particularly in the step of classifying, to further optimize the encoder operation.

Regarding claim 21, see claim 1 above.

Regarding claim 12, the claimed subject matter "wherein ... symbols" would have been optional to one skilled in art.

Regarding claim 13, the claimed subject matter "wherein ... symbols" would have been optional to one skilled in art.

Regarding claim 15, the claimed subject matter "producing ... source encoding" would have been obvious to one skilled in art as conventional.

Regarding claim 16, the claimed subject matter "comprising ... mapping" would have been obvious to one skilled in art.

Regarding claim 17-20, 22, Van further suggests the teaching of these the claimed subject matter in Col. 1, lines 36-53 as optional.

Allowable Subject Matter

3. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Cho (US 6,049,633) discloses Adaptive Arithmetic CODEC Method And Apparatus.

Gormish et al. (US 5,475,388) disclose Method And Apparatus For Using Finite State Machines To Perform Channel Modulation And Error Correction And Entropy Coding.

Fiala et al. (US 5,058,144) disclose Search Tree Data Structure Encoding For Textual Substitution Data Compression Systems.

Seshadri et al. (US 5,289,501) disclose Coded Modulation With Unequal Error Protection For Fading Channels.

Xu (US 6,348,880) discloses Method and Device for Coding, Decoding and Transmitting Information, Using Source-Controlled Channel Decoding.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dac V. Ha Examiner

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